

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
16 June 2005 (16.06.2005)

PCT

(10) International Publication Number  
**WO 2005/053731 A1**

(51) International Patent Classification<sup>7</sup>: **A61K 38/23**,  
38/29, A61P 19/08, C12Q 1/68

(21) International Application Number:  
PCT/EP2004/013347

(22) International Filing Date:  
24 November 2004 (24.11.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/525,025 25 November 2003 (25.11.2003) US

(71) Applicant (for all designated States except AT, US): NO-  
VARTIS AG [CH/CH]; Lichtstrasse 35, 4056 Basel (CH).

(71) Applicant (for AT only): NOVARTIS PHARMA GmbH  
[AT/AT]; Brunner Strasse 59, A-1230 Vienna (AT).

(72) Inventor; and

(75) Inventor/Applicant (for US only): BOBADILLA, Maria  
[ES/FR]; 25, rue du Loup, 68220 Hésingue (FR).

(74) Agent: GRUBB, Philip; Novartis AG, Corporate Intellec-  
tual Property, CH-4002 Basel (CH).

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE,  
SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
GW, ML, MR, NE, SN, TD, TG).

**Published:**

- with international search report
- before the expiration of the time limit for amending the  
claims and to be republished in the event of receipt of  
amendments

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: BIOMARKERS FOR THE EFFICACY OF CALCITONIN AND PARATHYROID HORMONE TREATMENT

(57) Abstract: A multi-organ gene profiling analysis of the results of an administration to a subject of salmon calcitonin or a parathyroid hormone analogue provides biomarkers of calcitonin treatment efficacy and parathyroid hormone or parathyroid hormone analogue treatment efficacy. Among the biomarkers are the expression profiles of the genes for Y-box binding protein, BMPs, FGFs, IGFs, VEGF,  $\alpha$ -2-HS glycoprotein (AHSG), OSF, nuclear receptors (steroid/thyroid family) and others. The results obtained support the anabolic effect of salmon calcitonin on bone metabolism.



WO 2005/053731 A1